



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| | | | | |
|---|-------------|----------------------|------------------------------|------------------|
| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/686,410 | 10/14/2003 | Eshwari P. Komarla | 42P17160 | 6852 |
| 8791 7590 04/05/2007 BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD SEVENTH FLOOR LOS ANGELES, CA 90025-1030 | | | EXAMINER REZA, MOHAMMAD W | |
| | | | ART UNIT 2136 | PAPER NUMBER |
| SHORTENED STATUTORY PERIOD OF RESPONSE | | | MAIL DATE | DELIVERY MODE |
| 3 MONTHS | | | 04/05/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/686,410

Applicant(s)

KOMARLA ET AL.

Examiner

Mohammad W. Reza

Art Unit

2136

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address -

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>11/14/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-33 are presented for examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Redlich et al hereafter Redlich (US patent 7140044).
3. As per claim 1, Redlich discloses a method comprising: encrypting, based least in part upon at least one key, one or more respective portions of input data to generate one or more respective portions of output data to be stored in one or more locations in storage; and at least one of: generating, based at least in part upon the one or more respective portions of the output data, check data to be stored in the storage (col. 7, lines 20-40, col. 9, lines 49-67); and selecting the one or more locations so as to permit the one or more respective portions of the output data to be distributed among two or more storage devices comprised in the storage (col. 7, lines 1-39, col. 40-67).

4. As per claim 2, Redlich discloses the method wherein: the storage comprises a redundant array of independent disks (RAID); and the check data comprises one of parity data and a copy of the output data (col. 5, lines 1-30).

5. As per claim 3, Redlich discloses the method comprising: storing the at least one key in memory; and in response, at least in part, to an attempt to tamper with the at least one key, erasing the at least one key from the memory (col. 25, lines 11-50).

6. As per claim 4, Redlich discloses the method comprising: determining, based at least in part upon one or more credentials, whether to permit execution of one or more operations involving the storage (col. 26, lines 6-39).

7. As per claim 5, Redlich discloses a method comprising: decrypting, based least in part upon at least one key, one or more respective portions of input data from one or more respective locations in storage to generate one or more respective portions of output data; and at least one of: generating check data to be stored in the storage (col. 7, lines 20-40, col. 9, lines 49-67), the check data being generated based at least in part upon the one or more respective portions of the input data; and retrieving the one or more respective portions of the input data from a plurality of storage devices comprised in the storage (col. 7, lines 1-39, col. 40-67).

8. As per claim 6, Redlich discloses the method comprising: receiving a request to retrieve requested data from the storage, the requested data comprising the output data; and prior to the decrypting of the one or more respective portions of the input data, determining, based at least in part upon one or more credentials, whether the request is authorized (col. 26, lines 6-39).

Art Unit: 2136

9. As per claim 7, Redlich discloses the method comprising: generating, at least in part, the at least one key based at least in part upon at least one of one or more tokens and one or more passwords (col. 25, lines 11-50).

10. As per claim 8, and 9 Redlich discloses the method wherein: the storage also stores metadata; and the method further comprises encrypting the metadata based at least in part upon the at least one key, wherein: the metadata comprises partition information (col. 7, lines 20-40, col. 9, lines 49-67).

11. As per claim 10, Redlich discloses an apparatus comprising: circuitry to encrypt, based least in part upon at least one key, one or more respective portions of input data to generate one or more respective portions of output data to be stored in one or more locations in storage; the circuitry also being capable of at least one of: generating, based at least in part upon the one or more respective portions of the output data (col. 7, lines 20-40, col. 9, lines 49-67), check data to be stored in the storage; and selecting the one or more locations so as to permit the one or more respective portions of the output data to be distributed among two or more storage devices comprised in the storage (col. 7, lines 1-39, col. 40-67).

12. As per claim 11, Redlich discloses the apparatus wherein: the storage comprises a redundant array of independent disks (RAID); and the check data comprises one of parity data and a copy of the output data (col. 5, lines 1-30).

13. As per claim 12, Redlich discloses the apparatus wherein: the circuitry is also capable of storing the at least one key in memory; and in response, at least in part, to

an attempt to tamper with the at least one key, erasing the at least one key from the memory (col. 25, lines 11-50).

14. As per claim 13, Redlich discloses the apparatus wherein: the circuitry is also capable of determining, based at least in part upon one or more credentials, whether to permit execution of one or more operations involving the storage (col. 26, lines 6-39).

15. As per claim 14, Redlich discloses an apparatus comprising: circuitry to decrypt, based least in part upon at least one key, one or more respective portions of input data from storage to generate one or more respective portions of output data; the circuitry being capable of at least one of: generating check data to be stored in the storage (col. 7, lines 20-40, col. 9, lines 49-67), the check data being generated based at least in part upon the one or more respective portions of the input data; and retrieving the one or more respective portions of the input data from a plurality of storage devices comprised in the storage (col. 7, lines 1-39, col. 40-67).

16. As per claim 15, Redlich discloses the apparatus wherein the circuitry is also capable of: receiving a request to retrieve requested data from the storage, the requested data comprising the output data; and prior to the decrypting of the one or more respective portions of the input data, determining, based at least in part upon one or more credentials, whether the request is authorized (col. 26, lines 6-39).

17. As per claim 16, Redlich discloses the apparatus wherein: the circuitry is also capable of generating, at least in part, the at least one key based at least in part upon at least one of one or more tokens and one or more passwords (col. 25, lines 11-50).

Art Unit: 2136

18. As per claim 17, Redlich discloses the apparatus wherein: the storage also stores metadata; and the circuitry is also capable of encrypting the metadata based at least in part upon the at least one key (col. 7, lines 20-40, col. 9, lines 49-67).

19. As per claim 18, Redlich discloses the apparatus wherein: the metadata comprises partition information (col. 25, lines 11-50).

20. As per claim 19, Redlich discloses an article comprising a storage medium: encrypting, based least in part upon at least one key, one or more respective portions of input data to generate one or more respective portions of output data to be stored in one or more locations in storage (col. 7, lines 20-40, col. 9, lines 49-67); and at least one of: generating, based at least in part upon the one or more respective portions of the output data, check data to be stored in the storage; and selecting the one or more locations so as to permit the one or more respective portions of the output data to be distributed among two or more storage devices comprised in the storage (col. 7, lines 1-39, col. 40-67).

21. As per claim 20, Redlich discloses the article wherein: the storage comprises a redundant array of independent disks (RAID); and the check data comprises one of parity data and a copy of the output data (col. 5, lines 1-30).

22. As per claim 21, Redlich discloses the article wherein the instructions when executed by the machine also result in: storing the at least one key in memory; and in response, at least in part, to an attempt to tamper with the at least one key, erasing the at least one key from the memory (col. 25, lines 11-50).

23. As per claim 22, Redlich discloses the article wherein the instructions when executed by the machine also result in: determining, based at least in part upon one or more credentials, whether to permit execution of one or more operations involving the storage (col. 26, lines 6-39).

24. As per claim 23, Redlich discloses an article comprising a storage medium having stored therein instructions that when executed by a machine result in the following: decrypting, based least in part upon at least one key, one or more respective portions of input data from storage to generate one or more respective portions of output data (col. 7, lines 20-40, col. 9, lines 49-67); and at least one of: generating check data to be stored in the storage, the check data being generated based at least in part upon the one or more respective portions of the input data; and retrieving the one or more respective portions of the input data from a plurality of storage devices comprised in the storage (col. 7, lines 1-39, col. 40-67).

25. As per claim 24, Redlich discloses the article wherein the instructions when executed by the machine also result in: receiving a request to retrieve requested data from the storage, the requested data comprising the output data; and prior to the decrypting of the one or more respective portions of the input data, determining, based at least in part upon one or more credentials, whether the request is authorized (col. 7, lines 1-39, col. 40-67).

26. As per claim 25, Redlich discloses the article wherein the instructions when executed by the machine also result in: generating, at least in part, the at least one key

based at least in part upon at least one of one or more tokens and one or more passwords (col. 25, lines 11-50).

27. As per claim 26, Redlich discloses the article wherein: the storage also stores metadata; and the instructions when executed by the machine also result in encrypting the metadata based at least in part upon the at least one key (col. 25, lines 11-50).

28. As per claim 27, Redlich discloses the article wherein: the metadata comprises partition information (col. 25, lines 11-50).

29. As per claim 28, Redlich discloses a system comprising: a circuit board comprising a circuit card slot and a circuit card that is capable of being inserted into the circuit card slot, the circuit card comprising circuitry, the circuitry being capable of encrypting, based least in part upon at least one key, one or more respective portions of input data to generate one or more respective portions of output data to be stored in one or more locations in storage (col. 7, lines 20-40, col. 9, lines 49-67); the circuitry also being capable of at least one of: generating, based at least in part upon the one or more respective portions of the output data, check data to be stored in the storage; and selecting the one or more locations so as to permit the one or more respective portions of the output data to be distributed among two or more storage devices comprised in the storage (col. 7, lines 1-39, col. 40-67).

30. As per claim 29, Redlich discloses the system wherein: the circuitry comprises an input/output (I/O) processor, and non-volatile memory that is capable of storing the at least one key; and the circuitry is capable of detecting an attempt to tamper with the at

least one key, and in response, at least in part, to the attempt, erasing the at least one key from the memory (col. 25, lines 11-50).

31. As per claim 30, Redlich discloses the system wherein: the circuit board also comprises a host processor coupled to the circuit card slot via a bus, and one or more token memories to store one or more tokens; and additional circuitry to read one or more additional tokens stored in a removable token memory after the removable token memory is inserted into a token reader (col. 25, lines 11-50).

32. As per claim 31, Redlich discloses a system comprising: a circuit board comprising a circuit card slot and a circuit card capable of being inserted into the circuit card slot, the circuit card comprising circuitry to decrypt, based least in part upon at least one key, one or more respective portions of input data from storage to generate one or more respective portions of output data (col. 7, lines 20-40, col. 9, lines 49-67); the circuitry also being capable of at least one of: generating check data to be stored in the storage, the check data being generated based at least in part upon the one or more respective portions of the input data; and retrieving the one or more respective portions of the input data from a plurality of storage devices comprised in the storage (col. 7, lines 1-39, col. 40-67).

33. As per claim 32, Redlich discloses the system comprising: an input/output (I/O) controller coupled to a redundant array of independent disks (RAID); and a bus via which the controller is coupled to the circuitry (col. 25, lines 11-50).

Art Unit: 2136

34. As per claim 33, Redlich discloses the system wherein: the circuit board also comprises a host processor coupled to the slot and the controller (col. 7, lines 20-40, col. 9, lines 49-67).


Conclusion

35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad w. Reza whose telephone number is 571-272-6590. The examiner can normally be reached on M-F (9:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MOAZZAMI NASSER G can be reached on (571)272-4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NASSER MOAZZAMI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100


4,2,07

Mohammad Wasim Reza

AU 2136